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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/553,489
	Filing Date	October 17, 2005
	First Named Inventor	Yusaku SHIMAOKA, et al.
	Art Unit	2875
	Examiner Name	To Be Assigned
Total Number of Pages in This Submission <i>12</i>	Attorney Docket No.	MTS-3532US

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
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	<input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> Request for Corrected Filing Receipt
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SIGNATURE OF APPLICANT, ATTORNEY OR AGENT			
Firm Name	RatnerPrestia		
Signature	<i>Daniel N. Calder</i>		
Printed Name	Daniel N. Calder		
Date	June 21, 2006	Reg. No.	27,424

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Signature	<i>Fran Petrillo</i>		
Typed or Printed Name	Fran Petrillo	Date	June 21, 2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Yusaku SHIMAOKA, et al.

Serial No.: 10/553,489

Group No.: 2875

Filed: October 17, 2005

Examiner: To Be Assigned

For: LIGHT SOURCE APPARATUS,
LIGHTING APPARATUS AND
PROJECTION DISPLAY
APPARATUS (AS AMENDED)

Filing Receipt Corrections
Office of Initial Patent Examination
Commissioner for Patents
P.O. Box 1450
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REQUEST FOR CORRECTED FILING RECEIPT

1. Attached is a copy of the official filing receipt received from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested.

2. There is an error with respect to the following data:

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and/or
☐ omitted

- Error in*
1. ☐ Applicant's name
 2. ☐ Applicants' address
 3. ☒ Title
 4. ☐ Filing Date
 5. ☐ Serial Number
 6. ☐ Foreign/PCT Application
Reference
 7. ☐ Other:

- Correct data*
- 1.
 - 2.
 3. LIGHT SOURCE APPARATUS, LIGHTING
APPARATUS AND PROJECTION DISPLAY
APPARATUS (copy of Preliminary
Amendment filed October 17, 2005)
 - 4.
 - 5.
 - 6.
 - 7.

3. No fee is due.

Respectfully submitted,

RatnerPrestia
P. O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

Daniel N. Calder

Daniel N. Calder, Reg. 27,424

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Filing Receipt Corrections, Office of Initial Patent Examination, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: **June 21, 2006**

Fran Petrillo

Fran Petrillo



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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/553,489	10/17/2005	2875	1860	MTS-3532US	19	18	2

52473
RATNERPRESTIA
P.O. BOX 980
VALLEY FORGE, PA 19482

RATNERPRESTIA

JUN 19 2006

CONFIRMATION NO. 1296

FILING RECEIPT



OC000000019165287

Date Mailed: 06/12/2006

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Yusaku Shimaoka, Osaka, JAPAN;
Shu Namba, Osaka, JAPAN;
Kazunori Tanabe, Okayama, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 52473.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP04/05422 04/15/2004

Foreign Applications

JAPAN 2003-114162 04/18/2003

If Required, Foreign Filing License Granted: 06/07/2006

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/553,489**

Projected Publication Date: 09/14/2006

Non-Publication Request: No

Early Publication Request: No

Title

COPY

Light Source Apparatus, Lighting Apparatus and Projection Display Apparatus
 Light source unit, illuminator and projection display

Preliminary Class

362

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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Application No.: To Be Assigned

MTS-3532US



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No: To Be Assigned
Applicants: Yusaku SHIMAOKA, et al.
Filed: Herewith
Title: LIGHT SOURCE APPARATUS, LIGHTING APPARATUS AND
PROJECTION DISPLAY APPARATUS (AS AMENDED)
TC/A.U.: To Be Assigned
Examiner: To Be Assigned
Confirmation No.: To Be Assigned
Docket No.: MTS-3532US

PRELIMINARY AMENDMENT

Mail Stop PCT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to examination, please amend the above-identified application as follows:

- ☒ **Amendments to the Title** begin on page **2** of this paper.
- ☒ **Amendments to the Specification** begin on page **3** of this paper.
- ☒ **Amendments to the Claims** are reflected in the listing of claims which begins on page _____ of this paper.
- ☐ **Amendments to the Drawings** begin on page _____ of this paper and include an attached replacement sheet(s).
- ☒ **Amendments to the Abstract** are on page **5** of this paper. A clean version of the Abstract is on page **7** of this paper.
- ☐ **Remarks/Arguments** begin on page _____ of this paper.
- ☒ **Please enter the enclosed Article 34 Amendment.**

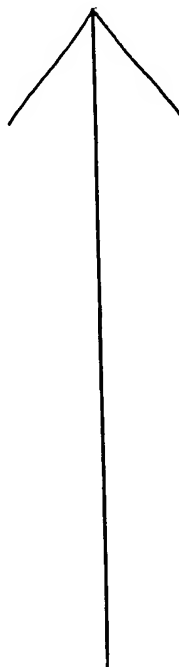


COPY

Amendment to the Title:

Please replace the Title with the following:

LIGHT SOURCE APPARATUS, LIGHTING APPARATUS AND PROJECTION DISPLAY
APPARATUS



COPY

Amendments to the Specification:

After the title and before the first paragraph, please insert the following paragraph:

THIS APPLICATION IS A U.S. NATIONAL PHASE APPLICATION OF PCT INTERNATIONAL APPLICATION PCT/JP2004/005422.

Please replace the paragraph, beginning at page 5, line 8, with the following rewritten paragraph:

As shown in Figure 11, the conventional multi-lamp optical system has the configuration in which the light radiated from multiple light source apparatuses gets incident on the rod integrator 2 which is homogeneous lighting means. However, a transmissive/reflective liquid crystal of displaying the image and the light modulation device called a DMD (Digital Micro-mirror Device) have a luminous flux incident angle range capable of substantially modulating the light and an image display effective area capable of displaying the image. For this reason, due to the relation of ~~Heltzhelm~~Helmholtz - Lagrange which is a basic formula of imaging optics, an output angle range of the light according to the size of an outgoing side opening 2b of the rod integrator 2 in an imaging relation with the relay lens 3 is uniquely decided by the relay lens 3.

Please replace the paragraph, beginning at page 5, line 24, with the following rewritten paragraph:

In this case, if the outgoing side opening and the incident side opening of the rod integrator 2 are of an equal size, the output angle range is equal to the incident angle range. If the outgoing side opening and the incident side opening are of different sizes, the incident angle range is in accordance with the size of the incident side opening induced by the relation of ~~Heltzhelm~~Helmholtz - Lagrange, and so only the luminous flux within this angle range is projected onto the screen via the rod integrator 2, relay lens 3, light modulation device 4 and projection lens.

Please replace the paragraph, beginning at page 7, line 6, with the following rewritten paragraph:

COPY

The light source apparatus of the second conventional example shown in Figure 15 is in a form of non-rotation asymmetry to the optical axis of the first concave mirror, that is, the straight line connecting the luminescence center 10c of the light-emitting portion 10 of the lamp to the focus Y. Its outer shape can be smaller than that of the first conventional example. The luminous fluxes formed by collection of light can also be of non-rotation asymmetry, and it is possible, even in the multi-lamp optical system of Figure 11, to reduce the distance between the first concave mirror 8 corresponding to the first concave mirror 6 and the incident side opening 2a of the rod integrator 2.

Please replace the paragraph, beginning at page 46, line 9, with the following rewritten paragraph:

As previously described, in the above embodiments, the lamp 11 is an example of the lamp or light generating means of the present invention, the spherical vessel portion of the lamp light-emitting portion 111 except the source of luminescence is an example of the spherical vessel portion of the present invention, the ends ~~111b~~-111c and 111d are an example of the pair of ends of the present invention, the light transmission plane 111a of the lamp light-emitting portion 111 is an example of a first opposed plane of the present invention, and the light transmission plane 111b is an example of a second opposed plane of the present invention.

Please delete the following title, beginning at page 47, line 11:

~~Industrial Applicability~~

COPY

Amendment to the Abstract:

The Abstract has been amended. A revised Abstract is attached.

ABSTRACT

~~To provide a light source apparatus capable of striking a balance between miniaturization and high optical usable efficiency for concave mirrors as light generating means and light collecting means and further capable of emitting luminous fluxes in asymmetry to the light generating means and optical axes of the concave mirrors with high efficiency.~~

The ~~A~~ light source apparatus ~~consisting of~~ includes a lamp ~~11~~, an ellipsoidal mirror ~~12~~ ~~of collecting a part of light radiated from a light transmission plane 111b of the lamp 11, and a spherical mirror 13 of collecting another part of the light radiated from a light transmission plane 111a not collected by the ellipsoidal mirror 12 and reflecting it on the ellipsoidal mirror 12, in which a reflection plane of the ellipsoidal mirror 12 and the reflection plane of the spherical mirror 13 are in a form of non-rotation symmetry to an optical axis 14 connecting a focal position F1 corresponding to a source of luminescence of the lamp 11 to a focal position F2 of the light collected by the ellipsoidal mirror 12 respectively,~~ a. The distance between the reflection plane of the spherical mirror 13 and the source of luminescence of the lamp 11 is shorter than the distance between the source of luminescence and the focus of the light collected by the ellipsoidal mirror 12, and a part of the reflection plane of the ellipsoidal mirror 12 is formed around the optical axis 14.

Respectfully submitted,



Daniel N. Calder, Reg. No. 27,424
Attorney for Applicants

DNC/fp

Attachment: Abstract

Dated: October 17, 2005

COPY

Application No.: To Be Assigned

MTS-3532US

P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

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Date of Deposit: October 17, 2005

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KATHLEEN LIBBY

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ABSTRACT

A light source apparatus includes a lamp, an ellipsoidal mirror collecting a part of light radiated from a light transmission plane of the lamp, and a spherical mirror collecting another part of the light radiated from a light transmission plane not collected by the ellipsoidal mirror and reflecting it on the ellipsoidal mirror, in which a reflection plane of the ellipsoidal mirror and the reflection plane of the spherical mirror are in a form of non-rotation symmetry to an optical axis connecting a focal position F1 corresponding to a source of luminescence of the lamp to a focal position F2 of the light collected by the ellipsoidal mirror respectively. The distance between the reflection plane of the spherical mirror and the source of luminescence of the lamp is shorter than the distance between the source of luminescence and the focus of the light collected by the ellipsoidal mirror, and a part of the reflection plane of the ellipsoidal mirror is formed around the optical axis.

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